

The diagram consists of two horizontal rows of seven empty rectangular boxes each. The boxes are arranged in a grid-like pattern. A dashed line is positioned horizontally between the two rows of boxes.

□ □ □ □ □

Nature Magazine AlphaGo Zero paper [1]

α-αγόνων αλευρία Alpha αγόνων αλευρία leukotomy αγόνων αλευρία

1

A decorative horizontal bar consisting of a series of small, evenly spaced rectangular boxes, likely a separator or a decorative element at the bottom of the page.

talent pool

talent pool

卡尔·莱蒙德·波普尔 Karl Raimund Popper

A horizontal row of fifteen empty rectangular boxes, intended for children to write their names in, likely as part of a classroom activity.

STEM Science, technology, engineering and mathematics

A decorative horizontal bar consisting of a series of small, evenly spaced rectangular blocks, likely made of wood or metal, arranged in a repeating pattern.

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□ □ □ □ □ □

Alpha

Deepmind 2019-03-26 [2] 2019-03-26

AlphaGo Master 三星棋院 AlphaGo Master 三星棋院 AlphaGo Master 三星棋院
三星棋院 AlphaGo Zero 三星棋院 AlphaGo Master 三星棋院 AlphaGo Master 三星棋院

AlphaGo Zero と AlphaGo Master の戦い[3]では、AlphaGo Master が 16 回戦で AlphaGo Zero を破った。AlphaGo Zero は 14-16-45 の勝敗記録を残した。

1 Nature Magazime AlphaGo Deepmind AlphaGo Zero AlphaGo Master

2) AlphaGo Zero یک local trap را در میان اینها باز کرد. AlphaGo Zero یک local trap را در میان اینها باز کرد. AlphaGo Zero یک local trap را در میان اینها باز کرد.

AlphaGo Zero 5 game

Superhuman چیزی که این را می‌داند Clock چیزی که IBM S/360 چیزی که این را می‌داند
AlphaGo Zero چیزی که superhuman IBM S/360 چیزی که superhuman چیزی که
AlphaGo Zero چیزی که Nature Magazine چیزی که AlphaGo Zero paper چیزی که
superhuman چیزی که این را می‌داند

超人級人工智能 Technological Singularity
Demis Hassabis AlphaGo

Deepmind team Alpha Deepmind team Alpha Deepmind team Alpha Deepmind team Alpha

AlphaGo Zero AlphaGo Zero superhuman [7] superhuman

superhuman 深層學習 reinforcement learning superhuman 人工智能

AlphaGo Zero AlphaGo Master AlphaGo Master superhuman AlphaGo Master 60 3 AlphaGo Master superhuman AlphaGo Master superhuman AlphaGo Master superhuman [8]

Alpha Alpha Alpha Alpha Alpha Alpha Alpha

Alpha Turing Machine deep-learning Alpha Deepmind AlphaGo Zero AlphaGo Master AlphaGo Zero AlphaGo Zero AlphaGo Zero

Deep-learning reinforcement credit reinforcement reinforcement local trap

leukotomy reinforcement peer review Socratic method peer review Socratic method peer review

ideas are cheap idea cheap reinforcement [9]

AlphaGo reinforcement

AlphaGo reinforcement [10]

[11]

[12]

Turing Machine local trap Universal approximation

Socratic method Superhuman Superhuman

Superhuman

Alan Turing Geoffrey Hinton Demis Hassabis AlphaGo

Demis Hassabis AlphaGo [13] Geoffrey Hinton

Turing Machine Turing Machine Geoffrey Hinton Turing Machine Alan Turing

Dialogue Concerning the Two Chief World Systems [14]

Socratic method [15]

The Sceptical of Chemist

On the Origin of Species

[16]

Leukotomy

personalities mental diseases

personalities BRAIN Initiative

[17]

Leukotomy BRAIN Initiative

Leukotomy

personalities mental diseases personalities BRAIN Initiative

200 leukotomy 亂脳神経外科学の歴史と現状 Leukotomy 亂脳神経外科学の歴史と現状 BRAIN Initiative 亂脳神経外科学 AlphaGo 亂脳神経外科学

3000 personality 乱 intelligence 亂脳神経外科学 Walter Freeman 亂脳神経外科学 personality 乱 intelligence 亂脳神経外科学

BRAIN Initiative project 亂脳神経外科学 NIH 乱 BRAIN 2025 Report 亂 "there is general agreement that types can be defined provisionally by invariant and generally intrinsic properties" 亂 invariant 乱 agreement 亂脳神経外科学 insights 亂 "envision an integrated, systematic census of neuronal and glial cell types" 亂 dynamic brain mapping 亂 "Link brain activity to behavior" 亂 "Produce conceptual foundations for understanding the biological basis of mental processes" 亂 脳神経外科学 亂 mental processes 乱 behavior 亂

BRAIN Initiative project 亂脳神経外科学 personality 乱 intelligence 亂脳神経外科学 亂 brain mapping 亂 personality 乱 intelligence 亂脳神経外科学 hidden assumptions 亂脳神経外科学 亂 personality 乱 intelligence 亂脳神経外科学

乱脳神経外科学 亂 personality 乱 intelligence 亂脳神経外科学 亂 personality 乱 intelligence 亂脳神経外科学

乱 BRAIN Initiative project 亂脳神経外科学 brain mapping 亂 personality 乱 mental diseases 亂 personality 乱 intelligence 亂脳神経外科学 亂 personality 乱 intelligence 亂脳神経外科学 leukotomy 亂

乱 leukotomy 亂脳神経外科学 Alpha 亂脳神経外科学 亂脳神経外科学 亂脳神経外科学 亂脳神経外科学 亂脳神経外科学

乱脳神経外科学 亂 personality 乱 intelligence 亂脳神経外科学 亂 personality 乱 intelligence 亂脳神経外科学 亂 mental diseases 亂

BRAIN Initiative 亂 brain mapping 亂脳神経外科学 亂 human level intelligence 亂脳神経外科学 亂 personalities 亂 intelligence 亂 mental diseases 亂脳神経外科学 BRAIN Initiative 亂 neurosciences 亂脳神経外科学 AlphaGo 亂脳神経外科学 generic human intelligence 亂脳神経外科学 亂 Alpha 亂脳神経外科学 亂脳神経外科学 亂脳神経外科学 亂 neurosciences 亂 [18]

乱

乱脳神経外科学 亂 AlphaGo Master 亂脳神経外科学 亂 AlphaGo Zero 亂脳神経外科学 亂 AlphaGo Zero 亂 AlphaGo 亂脳神経外科学 亂 AlphaGo Master 亂脳神経外科学 亂 Alpha 亂脳神経外科学 亂脳神経外科学

Alpha 亂脳神経外科学 亂脳神経外科学 亂脳神経外科学 亂脳神経外科学 亂脳神経外科学

乱脳神経外科学 亂脳神経外科学 Technological Singularity 亂脳神経外科学 BRAIN Initiative project 亂脳神経外科学

Technological Singularity □ baseless □□

AlphaGo Zero achieved superhuman performance

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[1] □□□□□□□□□□□□□□□□

[2] 突破！Cracking Go 突破人类棋艺极限 Deep Blue 突破人类计算极限
突破人类智慧极限AlphaGo 突破人类围棋极限 Alpha 突破人类思维极限

[3] <http://www.alphago-games.com/> AlphaGo Zero AlphaGo Zero <https://www.101weiqi.com/chessbook/player/38348/>

[5] 人工智能的局限性——图灵机的限制与AlphaGo的胜利

Alpha Go 由 Google DeepMind 研发，是 AlphaGo Zero、AlphaGo Master、AlphaGo SuperMaster 的统称。它在围棋上达到了人类水平的人工智能。Alpha Go 在围棋上的胜利，标志着人工智能的一个重要里程碑。

Google/Deepmind Alpha Go چیست؟

[6] 未来社会の超人化が実現するための技術的・社会的課題 superhuman 未来社会の
実現に向けた技術的・社会的課題 Alpha [6]

Deepmind Alpha Nature Magazine Alpha

[7] <http://www.alphago-games.com/> Full Strength of AlphaGo Zero, i.e. Final Form
40 Blocks 20 Blocks Not Full Strength of AlphaGo Zero
AlphaGo Zero superhuman

[8] AlphaGo Zero vs AlphaGo Master

[9] 2012 "Show, don't tell" show Socratic method tell and discuss

Ideas are cheap

[10] "Go gaming is strictly defined within a very small space. Industrial automations are typically designed in well controlled environments, but not strictly defined. Car driving is regulated, but the environment is not well controlled"

AlphaGo vs AlphaGo Master

[11] Alpha Go vs AlphaGo Master 60+3

AlphaGo vs AlphaGo Master

[12] AlphaGo vs AlphaGo Master

AlphaGo vs AlphaGo Master

[13] AlphaGo vs AlphaGo Master

[14] Dialogue Concerning the Two Chief Word Systems Socratic Method

AlphaGo vs AlphaGo Master

[15] Alpha Alpha Alpha Alpha Alpha Alpha Alpha Alpha

脳科学研究開発プログラム BRAIN Initiative project Alpha プロジェクト
β

[16] Leukotomy による BRAIN Initiative project の実施とその影響 BRAIN Initiative

[17] 亂世の政治小説として、その歴史的意義と社会批評性を高く評価される。また、その文筆力や登場人物の複雑な性格描写も評価される。

我沒有過界I do not cross the boundary between sciences and religions; Gödel's theorems suggest metaphysics from humans may not work

[18] Alpha